

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Previously Presented) A protection circuit of a hetero-junction field effect transistor for protecting a gate electrode of the hetero-junction field effect transistor against surge breakdown, comprising:

a Schottky barrier diode array having a plurality of forward direction first diodes and reverse direction second diodes, the number of second diodes being equal to that of the first diodes, are cascade-connected,

wherein a gate electrode of the hetero-junction field effect transistor is grounded through the Schottky barrier diode array.

2. (Previously Presented) A protection circuit of a hetero-junction field effect transistor according to claim 1, wherein each diode of the diode array is formed as a Schottky barrier diode made of an n+-type layer having a high doping concentration and a Schottky electrode provided on the n+-type layer.

3. (Previously Presented) A protection circuit of a hetero-junction field effect transistor according to claim 1, wherein the number of the forward direction first diodes of the Schottky diode array is determined so that a leak current of the protection circuit becomes

not larger than a leak current value of a maximum rating of the gate electrode of the hetero-junction field effect transistor.

4. (Previously Presented) A protection circuit of a hetero-junction field effect transistor according to claim 1, wherein the Schottky barrier diode is constructed as a compound semiconductor element formed integrally with the transistor.

5. (Previously Presented) A semiconductor device comprising a protection circuit for protecting a gate electrode or a drain electrode of a hetero-junction field effect transistor against surge breakdown, wherein

the protection circuit includes a series connection of a plurality of Schottky barrier diodes, and a plurality of reverse Schottky barrier diodes.

6. (Original) A semiconductor device according to claim 5, wherein the semiconductor device is formed on a compound semiconductor substrate.

7. (Original) A semiconductor device according to claim 6, wherein the compound semiconductor substrate is made of GaAs.

8. (Original) A semiconductor device according to claim 5, wherein the diode includes a first impurity introduction layer formed in a substrate, and a Schottky electrode

formed on the first impurity introduction layer and being Schottky-connected to the first impurity introduction layer.

9. (Original) A semiconductor device according to claim 5, wherein the diode includes a first conductivity type first impurity introduction layer and a second conductivity type second impurity introduction layer provided opposite to the first impurity introduction layer.

10. (Canceled).

11. (Canceled).

12. (Canceled).

13. (Previously Presented) A semiconductor device comprising a protection circuit for protecting a gate electrode of a hetero-junction field effect transistor against surge breakdown, wherein

the protection circuit includes a first Schottky barrier diode having an anode connected to the gate electrode, a second Schottky barrier diode having a cathode connected to the cathode of the first diode, a third Schottky barrier diode having an anode connected to

the anode of the second diode, and a fourth Schottky barrier diode having a cathode connected to the cathode of the third diode.

14. (Previously Presented) A semiconductor device comprising a protection circuit for protecting a gate electrode of a hetero-junction field effect transistor against surge breakdown, wherein

the protection circuit includes a first Schottky barrier diode having a cathode connected to the gate electrode, a second Schottky barrier diode having an anode connected to the anode of the first diode, a third Schottky barrier diode having a cathode connected to the cathode of the second diode, and a fourth Schottky barrier diode having an anode connected to the anode of the third diode.

15. (Canceled) Please cancel claim 15.